

## DOCUMENT RESUME

ED 482 034

FL 027 891

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TITLE Sustaining Indigenous Languages in Cyberspace.  
INSTITUTION Northern Arizona Univ., Flagstaff.  
PUB DATE 2003-00-00  
NOTE 7p.; Paper presented at the Annual Stabilizing Indigenous Languages Symposium (9th, Bozeman, MT, June 9-11, 2002). In: Reyner, Jon, Octaviana V. Trujillo, Roberto Luis Carrasco, and Louise Lockard, Eds. Nurturing Native Languages. Flagstaff: Northern Arizona University, 2003.  
AVAILABLE FROM For full text: <http://jan.ucc.nau.edu/~jar/NNL/> .  
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)  
EDRS PRICE EDRS Price MF01/PC01 Plus Postage.  
DESCRIPTORS \*CD ROMs; \*Computer Uses in Education; Culturally Relevant Education; \*Databases; Elementary Secondary Education; Higher Education; Indigenous Populations; \*Language Maintenance; Language Usage; Native Language Instruction; Teaching Methods; \*Telecommunications; Uncommonly Taught Languages; Yupik  
IDENTIFIERS Heritage Language; Tlingit

## ABSTRACT

This paper describes how certain types of electronic technologies, specifically CD-ROMs, computerized databases, and telecommunications networks, are being incorporated into language and culture revitalization projects in Alaska and around the Pacific. The paper presents two examples of CD-ROMs and computerized databases from Alaska, describing how one elementary school produced a bilingual Yup'ik-English CD-ROM for a traditional story. It also examines how in southeast Alaska, Tlingit elders are working as consultants to create a computerized database (a talking map) of sites in the Glacier Bay area of historical and cultural significance to people of the Native village of Hoonah. The paper provides examples of how telecommunications are helping students use computers to write about their Native cultures and to write in their Native languages for distant audiences. It concludes that extending indigenous language use into cyber space will depend on local conditions (e.g., the condition of the telephone lines and the preferred orthography). It notes that for maximum value, the use of the Native language in cyberspace must always be a part of, and related to, its use in the face-to-face space of the classroom. (Contains 10 references.) (SM)

Jon Allen Reyhner

TO THE EDUCATIONAL RESOURCES  
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## Sustaining Indigenous Languages in Cyberspace

Courtney B. Cazden

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My title phrase is from Rex Jim, Navajo poet and teacher. He started two Navajo language electronic conferences for students at Diné College's Kneel Down Bread conference for his social studies education students, and *Alhini Yazhi* ("little children") for teachers in reservation Head Start centers and their Diné early childhood faculty. Both conferences develop the users' fluency in written Navajo. Because of their specialized topics, both also "expand the Navajo language's capacity to embrace life in the contemporary world" (personal communication, 2001).

There is a paradox in suggesting that technology can be useful in revitalizing indigenous languages and cultures. After all, one kind of technology, television, has been influential in language and culture loss. An article in my hometown newspaper, *The Boston Globe*, subtitled a story from Arctic Village, Alaska, "Proud Alaska tribe links loss of its traditions to arrival of televisions":

It was January 1980 when members of the Gwich'in tribe stood in the snow and waited for a plane from Fairbanks to drop off the thing everyone was so curious to see.... "I couldn't sleep I was so excited by that TV," said Albert Gilbert...who, at 25, got his first taste of late-night comedy the day the future dropped out of the sky.

"I wanted to watch it and watch it and watch it," he said. "I woke up at 6 am. to watch it more. I did this for two weeks. When I went out in the country to hunt, all I could hear was the TV in my head" (Lewan, 5/29/1999, p. A7).

The article's author quotes Michael Krauss of the Alaska Native Language Center: "Television is a cultural nerve gas...odorless, painless, tasteless. And deadly."

This article will describe some positive counter-examples of how other kinds of electronic technologies—specifically CD ROMs, computerized data bases, and telecommunication networks—are being incorporated into language and culture revitalization projects in the Southwest and around the Pacific (This discussion draws on Cazden 2001, especially Ch. 6).

A decade ago, Joshua Fishman cautioned about relying too much on cyberspace:

Although cyber-space can be put to use for RLS [reversing language shift] purposes, neither computer programs, e-mail, search engines, the web as a whole, chat boxes or anything directly related to any or all of them can substitute for face-to-face interaction with *real family imbedded in real community* (1991, p. 458, emphasis in the original).

The examples that follow are all intended as supplements, not substitutes, for all-important face-to-face interaction.

From: J. Reyhner, O. Trujillo, R. L. Carrasco & L. Lockard (eds.). (2003). *Nurturing Native Languages* (pp. 53-57). Flagstaff, AZ: Northern Arizona University.

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## *Nurturing Native Languages*

### **CD ROMs and Computerized Data Bases**

Two examples come from Alaska. First, in the Yup'ik language area of southwestern Alaska, the Lower Kuskokwim School District has produced a bilingual CD ROM for the traditional story, "How the Crane got Blue Eyes." Both the story itself and the interactive reading, spelling, and writing games based on it are available by clicking on either Yup'ik or English.

Professionally produced in sound and full color, questions can be raised about some aspects of the modes of presentation. Does the presentation of the story and the isolated words in the games suffer from too little cultural context? According to one Alaskan teacher, "How the Crane Got Blue Eyes" has been used in Alaskan schools for 25 years, typically without regard for its Yup'ik language and cultural context (Barker, 1995). In a recent article about her own language learning, Athabaskan university teacher Beth Leonard critiques the resources available to her as she learns the Deg Xinag Athabaskan language of her home village, such as a dictionary of nouns:

In reviewing this dictionary with my father, I found that the literal translations were not included. For a beginning language learner, literal translations provide a great deal of fascinating cultural information and further impetus for investigation into one's own culture. For example, the Deg Xinag words for birds, fish, animals and plants reflect complex and scientific beliefs and observations (Leonard, 2001, p. 4). [The Deg Xinag word for yellow pond lily is *vichingadh ethog*, literally "muskrat's plate."]

I assume that the Yup'ik words in the mini-dictionary lists for the Crane games also carry cultural meanings. But like story interpretations, these are missing in the non-cultural presentation on the CD ROM. In future CD ROMs, based on other stories from other traditions, can more indigenous knowledge be incorporated—perhaps in a separate section for teachers—while keeping it simple enough for primary school children to use?

In the Tlingit language area in southeast Alaska, in Glacier Bay National Park, park ranger and archaeologist Wayne Howell is working with Tlingit elders to create a "talking map" of sites in the Glacier Bay area of historical and cultural significance to the people of the Native village of Hoonah. Eventually, the computerized data base will have maps in various scales, historical information, and oral literature—all to be heard and read in both Tlingit and English.

The goal is to create a data base usable in school and community, and Hoonah students have already been participating in its creation (personal communication, August 2000). Tlingit leader Andy Hope (2001) describes briefly the larger Southeast Alaska Native Place Name project, now in process, of which this Glacier Bay work is a part, "in which tribes and school districts work in partnership to develop multimedia educational resources."

### **Telecommunication Projects**

A very different use of electronic technology is telecommunication: students using computers to write *about* their Native cultures and *in* their Native languages for distant audiences.

Exchanging writing in English *about* Native culture: In writing about Native life, the most interested audience may be distant in geography and culture. At least that has been the experience of some teachers whose students have participated in such exchanges. Here's a condensation of a report by Rosie Roppel, an English teacher in Ketchikan, a town in Southeast Alaska where one-fourth of the residents are Tlingit, Haida or Shimshian. Her eighth grade unit on local Tlingit history began with a field trip to Saxman, a Tlingit village one mile south of town, for a performance of "Tlingit Boy of the Eagle Clan Becomes Chief."

I scan the audience for Lawrence, a Tlingit boy from Saxman, usually quiet and apathetic in my classroom. I had hoped that this trip would somehow stimulate his interest in school. Lights dim and a spotlight finds Tlingit Boy of Eagle Clan crouching in traditional red and black ceremonial clothing. Wearing the carved ceremonial mask of an eagle he acts out the ancient story of a young man who becomes chief.

Roppel retells the story and describes the young actor's excellent acting and dancing. As the reader comes to anticipate, the actor who removes his mask at the end is the missing student, Lawrence. Greeting the audience in Tlingit, he proceeds to instruct them in his Native culture, leading them outside to a 40-foot cedar totem "where he recounts stories represented by the carving on it."

The next day in the computer lab, when the students were typing their assigned essay about Tlingit culture, Lawrence's apathy returned: "Why do I have to write this?" Lawrence complained. I already told all this information yesterday. Everyone in Ketchikan already knows all this stuff." Yesterday he'd had a real audience of peers to speak to, and he'd spoken marvelously; today he had only his English teacher waiting for him to finish his assignment. How does one create such an audience in an academic environment?

The teacher's answer came in a request on the electronic network of the Bread Loaf School of English from students in the Laguna (Pueblo) Middle School in New Mexico, requesting responses to their stories about their elders. An electronic exchange of student writing developed between the two classrooms. Roppel concludes, "I didn't know it at the time, but the Laguna students would turn out to be the audience that would motivate some of my students [including Lawrence] to do their best work".

For this purpose of sustaining interest in the indigenous culture and doing the hard work of describing it in writing for an audience of distant peers, the Laguna students provided an ideal audience: readers interested in the same topic but from a place distant and different in interesting ways, in this case geographical (temperate rain forest Ketchikan vs. hot, dry Laguna) as well as cultural.

## *Nurturing Native Languages*

Exchanging writing in indigenous languages: Where the purpose of the telecommunication exchange is to provide expanded reasons for using the indigenous language by communicating in it, then the electronic exchanges need to be between classrooms of students who share that language, who are like each other in being part of the same language group.

The Hawaiian language movement has been especially active in this way. Hawaiian-medium schools are dispersed around the islands, so the virtual community of language users is many times larger than the face-to-face community in any one school. Exchanging writing with members of that larger distant audience can give added incentive, and authentic reason, for Hawaiian language use. Starting in 1992, the Hawaiian language center at the University of Hawaii at Hilo has been developing an electronic network, *Leoki* ("powerful voice"), for both data base resources and telecommunication exchanges—all in the Hawaiian language. (Donaghy, 1998, details *Leoki's* history; Warschauer, 1998, 1999 offer an outsider's analysis of the Hawaiian experience). The same conditions of considerable distance among indigenous-medium schools exist in Maori New Zealand (Benton, 1996) and in virtually all the language groups in Alaska, where travel even among nearby villages can be difficult.

The successful electronic exchanges that I know best, those between teachers using the network of the Bread Loaf School of English—like the Navajo language conferences and the one between Ketchikan and Laguna—are not just postings on a website. They are exchanges to a limited and specific audience, flowing back and forth many times in a school term or semester, between groups of students who come to know each other well. Judging from reports of participating teachers, both the repeated exchanges and their personalized quality seem to be essential to their success.

### **Final Comments**

Extending indigenous language use into cyber-space will of course depend on local conditions. The reliability of telephone lines may be a problem in some rural areas, and the preferred orthography may need some adaptation for easy computer use. Where such problems can be solved, electronic technologies can be not only useful but symbolically significant. According to K. Kawai'ae'a, who first conceived and planned *Leoki*,

Without changing the language and having the [computer] programs in Hawaiian, they wouldn't be able to have computer education *through* Hawaiian, which is really a major hook for kids in our program. They get the traditional content like science and math, and now they are able to utilize this 'ono (really delicious) media called computers! Computer education is just so exciting for our children. In order for Hawaiian to feel like a real living language, like English, it needs to be seen, heard, and utilized everywhere, and that includes the use of computers (quoted in Warschauer, 1998, pp. 147-8).

## *Sustaining Indigenous Languages in Cyberspace*

For maximum value, the use of the Native language in cyberspace must always be part of, and related to, its use in the face-to-face space of the classroom. In the telecommunication projects, this will be the case if the exchanges are not totally individualized (as with pen pals) but part of a class curriculum unit on historical investigations, or interviews with elders, or transcriptions of oral literature. Then there will be class discussions before anyone touches the keyboard, and additional discussions after the partners' messages are received. With CD ROMs and data bases, there is more danger that use of such material will be too individualized, with subsequent loss of potential gains from reinforcement and transfer.

The ultimate goal for all these projects is for whatever is learned by one or a few to become part of the shared common knowledge of a larger community, in the classroom and beyond. After all, all languages and cultures are communal possessions, not individual, and that status must be maintained in the classroom.

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**Statements made by representatives of moderately endangered languages at the 1994 Native American Language Issues (NALI) conference held in Glorieta, New Mexico.**

We have limited access to our tribal ways. Our oral tradition is overshadowed by the English language and thought. We ignore our traditions and our tribal intellectuals. We need to go back to the elders.

—Rosemary Christensen, Ojibwe

One point eight million dollars [provided by the Native American Languages Act] for language is not enough. We cannot depend on money; we need to depend on ourselves to save the language. We acknowledge our culture, but our language is the way. We need to reestablish the language, stand strong, and identify ourselves as strong people in a sovereign nation. Many cannot see themselves to be learning the language. Adults need to see and be more involved in saving the language.

—Larry L. Kimura, Hawaiian



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